

REMARKS

Prior to entry of this amendment, claims 15-17 are pending in the subject application. By the instant amendment, claim 15 is amended to more particularly recite the subject matter of the present invention. In particular, the subject matter of claim 16 has been incorporated into claim 15 and claim 16 has been canceled. New claims 18-23 are added. Claim 1 is the sole independent claim. No new matter is added by the instant amendment.

Applicants appreciate the Examiner's acknowledgement of the acceptability of the drawings filed on March 26, 2004.

Applicants appreciate the Examiner's acknowledgement of applicants' claim for foreign priority and receipt of a certified copy of the priority document in connection with the parent application Serial No. 10/178,306.

Applicants further appreciate the Examiner's consideration of the Information Disclosure Statement filed August 5, 2004.

Claims 15, 17-23 are presented to the Examiner for further or initial prosecution on the merits.

A. Introduction

In the outstanding Office action, the Examiner rejected claims 15-17 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,721,045 to Hunter ("the Hunter reference") and rejected claims 15-17 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2002/0196336 to Batson et al. ("the Batson et al. reference").

B. Asserted Anticipation of Claims 15-17

The Hunter Reference

In the outstanding Office action, the Examiner rejected claims 15-17 under 35 U.S.C. § 102(e) as being anticipated by the Hunter reference. Independent claim 15 has been amended to more particularly recite the subject matter of the present invention. It is respectfully submitted that the claims as amended are patentably distinct from the Hunter reference for at least the following reasons.

It is a feature of the present invention to provide a method of a photolithography processing system that includes positioning first illumination tools at varying lateral heights relative to the table to illuminate the surface of the wafer at various predetermined angles of incidence. This feature allows the method of the photolithography processing system of the present invention “to prevent an occurrence of a dark shadow in the circuit pattern or pattern mask formed on the surface of the wafer during the photolithography process.” *Original specification of Serial No. 10/809,857 at ¶ [0035]*. In view of this feature, claim 15 has been amended to recite that the method of the photolithography system of the present invention includes “illuminating a surface of a wafer with first illumination tools and a second illumination tool by positioning the first illumination tools at varying lateral heights relative to the table to illuminate the surface of the wafer at various predetermined angles of incidence and positioning the second illumination tool to illuminate the surface of the wafer vertically from above the wafer on the table.”

In the outstanding Office action, the Examiner asserted

The method of the instant application is described, taught, and suggested by the prior art reference throughout its entirety. Specifically refer to Figures 27 and 28, as well as the detailed

explanation of these figures in the specification at column 35, line 17 through column 37, line 55. Based on these teachings the instant invention is anticipated.

Office action of Aug. 18, 2004, at p. 3.

Although the Examiner asserts that “based on these teachings the instant invention is anticipated,” it is respectfully submitted that the disclosure of the Hunter reference does not support such an assertion. In particular, it is respectfully submitted that the Hunter reference fails to disclose or suggest “positioning the first illumination tools at varying lateral heights relative to the table to illuminate the surface of the wafer at various predetermined angles of incidence,” as presently recited in claim 15.

In the Hunter reference, illumination tools 56A and 56B in Figs. 2 and 4 and illumination tools 1118 and 1120 in Figs. 12A, 12B and 12C are mounted at pre-determined angles. Moreover, while the Hunter reference discloses adjusting the orientation of the camera 1116 and the light sources 1118, 1120, the Hunter reference fails to disclose adjusting an actual position of the light sources, in an up and down direction, to vary an angle of incidence, as in the present invention. *See the Hunter reference at col. 16, line 66 - col. 17, line 1.* Accordingly, the illumination tools of the Hunter reference are not capable of being positioned at varying lateral heights, as recited in claim 15. Further, the method of the Hunter reference is not able to vary a position, and thus, an angle of incidence, of the illumination tools in order “to prevent an occurrence of a dark shadow in the circuit pattern or pattern mask formed on the surface of the wafer during the photolithography process.”

Original specification of Serial No. 10/809,857 at ¶ [0035].

Applicants respectfully submit that the Hunter reference fails to disclose or suggest the present invention, as presently recited in independent claim 15. In view of the above

distinctions between the subject invention as presently claimed and the cited prior art reference, independent claim 15 is believed to be in condition for allowance, and a notice to that effect is respectfully requested.

Further, because the remaining claim, claim 17, depends directly from claim 15, claim 17 is believed to be similarly allowable as depending from an allowable base claim.

Accordingly, reconsideration and withdrawal of the rejections of claims 15 and 17 are respectfully requested.

The Batson et al. Reference

In the outstanding Office action, the Examiner rejected claims 15-17 under 35 U.S.C. § 102(e) as being anticipated by the Batson et al. reference. Independent claim 15 has been amended to more particularly recite the subject matter of the present invention. It is respectfully submitted that the claims as amended are patentably distinct from the Batson et al. reference for at least the following reasons.

As discussed above, it is a feature of the present invention to provide a method of a photolithography processing system that includes positioning first illumination tools at varying lateral heights relative to the table to illuminate the surface of the wafer at various predetermined angles of incidence. In view of this feature, claim 15 has been amended to recite that the method of the photolithography system of the present invention includes “illuminating a surface of a wafer with first illumination tools and a second illumination tool by positioning the first illumination tools at varying lateral heights relative to the table to illuminate the surface of the wafer at various predetermined angles of incidence and positioning the second illumination tool to illuminate the surface of the wafer vertically from above the wafer on the table.”

In the outstanding Office action, the Examiner asserted

The method of the instant application is described, taught, and suggested by the prior art reference throughout its entirety. Specifically refer to claims 10-30 of the document. Also refer to paragraph [0008] of the specification. There is a reference to Application Serial No. 09/680,226. A copy of this application's claims have been included for referral. Based on these teachings the instant invention is anticipated.

Office action of Aug. 18, 2004, at p. 3.

Although the Examiner asserts that "based on these teachings the instant invention is anticipated," it is respectfully submitted that the disclosure of the Batson et al. reference does not support such an assertion. In particular, it is respectfully submitted that the Batson et al. reference fails to disclose or suggest "positioning the first illumination tools at varying lateral heights relative to the table to illuminate the surface of the wafer at various predetermined angles of incidence," as presently recited in claim 15.

In the Batson et al. reference, light source 56 for illuminating a surface of the substrate, as shown in Figs. 7-9, is mounted at a predetermined height and at a predetermined angle Θ_t . While the Batson et al. reference discloses adjusting an angle of the light source 56, the Batson et al. reference fails to disclose adjusting an actual position of the light sources, in an up and down direction, to vary an angle of incidence, as in the present invention. *See the Batson et al. reference at ¶ [0044]*. Accordingly, the light source of the Batson et al. reference is not capable of being positioned at varying lateral heights, as recited in claim 15 of the present invention. Further, while the Batson et al. reference discloses moving the substrate relative to the light source, such movement does not vary an angle of incidence of light from the light source onto the substrate.

Applicants respectfully submit that the Batson et al. reference fails to disclose or suggest the present invention, as presently recited in independent claim 15. In view of the above distinctions between the subject invention as presently claimed and the cited prior art reference, independent claim 15 is believed to be in condition for allowance, and a notice to that effect is respectfully requested.

Further, because the remaining claim, claim 17, depends directly from claim 15, claim 17 is believed to be similarly allowable as depending from an allowable base claim.

Accordingly, reconsideration and withdrawal of the rejections of claims 15 and 17 are respectfully requested.

C. New Claims 18-23

New claims 18-23 depend directly from claim 15, which is believed to be allowable. Accordingly, claims 18-23 are believed to be similarly allowable as depending from an allowable base claim. Accordingly, a notice of allowance including new claims 18-23 is respectfully requested.

D. Conclusion

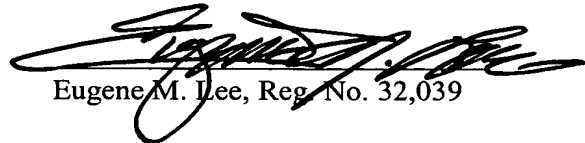
Since the cited prior art reference neither anticipates nor renders obvious the subject invention as presently claimed, applicants respectfully submit that claims 15 and 17-23 are now in condition for allowance, and a notice to that effect is respectfully requested.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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Eugene M. Lee, Reg. No. 32,039

LEE & STERBA, P.C.
1101 WILSON BOULEVARD, SUITE 2000
ARLINGTON, VA 22209
703.525.0978 TEL
703.525.4265 FAX

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This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.